EVALUATING AN APPARENT UNPROVOKED FIRST SEIZURE IN ADULTS

This is a summary of the American Academy of Neurology (AAN) guideline evaluating an apparent unprovoked first seizure in adults. One major study estimates the annual cost of epilepsy in the United States as $12.5 billion in 1995, with the majority of direct cost attributed to diagnostic tests, medical care, and drugs prescribed at the time of the initial evaluation for a seizure disorder or epilepsy. Misdiagnosis may lead to ineffective management choices and excessive and unnecessary costs. Errors are not only expensive but they may also result in harm to the patient. This guideline focuses on the methods and procedures that complement the standard initial history, physical, and neurological examination.

Please refer to the full guideline for more information at www.aan.com.

WHAT ARE THE MOST APPROPRIATE TOOLS FOR EVALUATING A FIRST UNPROVOKED SEIZURE IN ADULTS AT THE TIME OF INITIAL PRESENTATION?

Electroencephalography (EEG)	**Good evidence supports** • An EEG should be considered as part of the routine neurodiagnostic evaluation of the adult with an apparent unprovoked first seizure **(Level B).*** • An EEG should be considered as part of the routine neurodiagnostic evaluation of the adult with an apparent unprovoked first seizure because it has value in determining the risk for seizure recurrence **(Level B).***
Neuroimaging Studies (CT or MRI)	**Good evidence supports** • Brain imaging using CT or MRI should be considered as part of the routine neurodiagnostic evaluation of adults presenting with an apparent unprovoked first seizure **(Level B).***
Laboratory Studies	**Inadequate evidence to support or refute** • In the adult initially presenting with an apparent unprovoked first seizure, blood glucose, blood counts, and electrolyte panels (particularly sodium) may be helpful in specific clinical circumstances, but there are insufficient data to support or refute routine recommendation of any of these laboratory tests **(Level U).***
Lumbar Puncture	**Inadequate evidence to support or refute** • In the adult initially presenting with an apparent unprovoked first seizure, lumbar puncture may be helpful in specific clinical circumstances, such as patients who are febrile, but there are insufficient data to support or refute routine recommendation for lumbar puncture **(Level U).***
Toxicologic Screening	**Inadequate evidence to support or refute** • In the adult presenting with an apparent unprovoked first seizure, toxicologic screening may be helpful in specific clinical circumstances, but there are insufficient data to support or refute routine recommendation for toxicologic screening **(Level U).***

Classification of Evidence for Rating of Screening Articles: Class I = A statistical population-based sample of patients studied at a uniform point in time (usually early) during the course of the condition. All patients undergo the intervention of interest. The outcome, if not objective, is determined in an evaluation that is masked to the patients' clinical presentation. **Class II** = A statistical, non-referral-clinic-based sample of patients studied at a uniform point in time (usually early) during the course of the condition. Most patients undergo the intervention of interest. The outcome, if not objective, is determined in an evaluation that is masked to the patients' clinical presentations. **Class III** = A sample of patients studied during the course of the condition. Some patients undergo the intervention of interest. The outcome, if not objective, is determined in an evaluation by someone other than the treating physician. **Class IV** = Expert opinion, case reports, or any study not meeting criteria for Class I to III.

*Classification of Recommendations: A = Established as effective, ineffective, or harmful for the given condition in the specified population. (Level A rating requires at least two consistent Class I studies.) **B** = Probably effective, ineffective, or harmful for the given condition in the specified population. (Level B rating requires at least one Class I study or at least two consistent Class II studies.) **C** = Possibly effective, ineffective, or harmful for the given condition in the specified population. (Level C rating requires at least one Class II study or two consistent Class III studies). **U** = Data inadequate or conflicting; given current knowledge; treatment is unproven.

This is an educational service of the American Academy of Neurology. It is designed to provide members with evidence-based guideline recommendations to assist with decision-making in patient care. It is based on an assessment of current scientific and clinical information and is not intended to exclude any reasonable alternative methodologies. The AAN recognizes that specific patient care decisions are the prerogative of the patient and the physician caring for the patient, based on the circumstances involved. Physicians are encouraged to carefully review the full AAN guidelines so they understand all recommendations associated with care of these patients.

Copies of this summary and additional companion tools are available at *www.aan.com* or through AAN Member Services at (800) 879-1960.

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